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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,422	01/27/2004	Curtis A. Trudeau	56466.85051-001	4140

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EXAMINER

BROWN, DREW J

ART UNIT

PAPER NUMBER

3616

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/766,422	Applicant(s) TRUDEAU ET AL.	
	Examiner Drew J. Brown	Art Unit 3616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/10/04 and 1/27/4</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claims 8-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 8 recites the limitation "the measuring means" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
4. Claims 1 and 5-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kami et al. (U.S. Pat. No. 4,396,202).

With respect to claim 1, Kami et al. discloses a vehicle including an electronic ride height control system in communication with a plurality of fluid suspension elements, comprising a sensor that measures an angle or orientation of a vehicle axis relative to a horizontal plane (column 3, lines 22-29), communicating the sensor information relating to the angle to a controller (column 3, line 65 and column 4, line 1), and processing the information with the controller to generate leveling instructions. The controller has a self leveling mode for automatically adjusting at least one of the plurality of fluid suspension elements via the electronic ride height control system based on the leveling instructions, wherein the angle of the vehicle axis relative to the horizontal plane is changed, whereby the vehicle axis is at least one of leveled relative to the horizontal plane and brought closer to being leveled relative to the horizontal plane (column 2, lines 20-25). The controller also has a standard leveling mode, wherein the controller is incapable of automatically adjusting at least one of the plurality of fluid

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suspension elements via the electronic ride height control, so that the electronic ride height control can operate without being controlled by the controller (column 4, lines 10-14).

With respect to claims 5 and 10, the controller at least one of controls and overrides the electronic height control system in the adjusting step (column 4, lines 10-14).

With respect to claim 6, the vehicle axis is at least one of a side to side axis of the vehicle and a fore and aft axis of the vehicle (column 4, lines 1-4).

With respect to claim 8, the measuring means is at least one leveling sensor (16, 17).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrisroe, Jr. (U.S. Pat. No. 4,641,843) in view of Schneider et al. (U.S. Pat. No. 5,913,525).

With respect to claims 1, 7, 9, 14, 17, 22-24, and 27, Morrisroe, Jr. discloses a vehicle including an electronic ride height control system in communication with a plurality of fluid suspension elements (Abstract, lines 2-5), comprising a self leveling mode that further comprises automatically adjusting at least one of the plurality of fluid suspension elements via the electronic ride height control system based on the leveling instructions (Abstract, lines 20-23) as the vehicle moves (column 2, lines 13-17), wherein the angle of the vehicle axis relative to the horizontal plane is changed, whereby the vehicle axis is at least one of leveled relative to the horizontal plane and brought closer to being leveled relative to the horizontal plane. A standard leveling mode is also disclosed, where the at least one of the plurality of fluid suspension elements is not automatically adjusted via the electronic ride height control, so that the electronic ride height control can operate without being controlled by a controller (Abstract, lines 5-20).

Although control valves are disclosed, Morrisroe, Jr. does not disclose a process of measuring an angle of a vehicle axis relative to a horizontal plane using a sensor, communicating

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information relating to the angle to a controller, and processing the information with the controller to generate leveling instructions.

Schneider et al., however, does disclose a process of measuring an angle of a vehicle axis relative to a horizontal plane using a sensor (Abstract, lines 7-11) as the vehicle moves across a plurality of potential parking locations (column 3, lines 5-9), communicating information relating to the angle to a controller (Abstract, lines 7-16), and processing the information with the controller to generate leveling instructions (Abstract, lines 7-16).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Morrisroe, Jr. in view of the teachings of Schneider et al. to have means to measure an angle of a vehicle axis, communicate the information to a controller, and process the information to generate leveling instructions in order to provide precise and quick measurements so the driver can level the vehicle easily and determine when the vehicle is in an area incapable of being leveled (column 3, lines 7-9).

With respect to claim 2, Schneider et al. discloses outputting the information to an operator via at least one of a display and an audible indicator, and wherein the measuring is performed with an electronic sensor (Abstract, lines 16-18).

With respect to claim 3, Morrisroe, Jr. discloses that the measuring, communicating, and outputting steps are performed as the vehicle is moving to update the operator of the angle as the vehicle is moving (column 2, lines 13-17).

With respect to claims 4, 11, 18, and 23, Schneider et al. discloses outputting the information to an operator via a display indicator to inform the operator of at least one of whether or not the vehicle axis is level relative to the horizontal plane, whether or not the vehicle axis is being leveled relative to the horizontal plane, whether or not the vehicle axis is within a range of potential angles that will enable the vehicle axis to be leveled relative to the horizontal plane, and whether or not the vehicle axis is leveled to a tolerance relative to the horizontal plane (column 2, lines 63-67 and column 3, lines 1-9), so the operator can select at least one of the plurality of parking locations as the vehicle moves across the parking locations.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Morrisroe, Jr. in view of the teachings of Schneider et al. to output the information to an operator via a display indicator that informs the

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operator of the leveling condition so that the operator is aware of the vehicle orientation with respect to the horizontal plane and can manually level the vehicle accordingly, thus saving time attempting to level the vehicle.

With respect to claims 5, 10, 12, 19, and 27, Schneider et al. discloses that the controller at least one of controls and overrides the electronic height control system in the adjusting step/self leveling mode, and automatically adjusts the orientation of the vehicle axis relative to the horizontal plane based on the output (column 2, lines 49-55).

With respect to claims 6, 21, and 23, Schneider et al. discloses that the vehicle axis is at least one of a side to side axis of the vehicle and a fore to aft axis of the vehicle, where a leveling sensor is used at one of the axes (Abstract, lines 3-7) to measure how level the axis is relative to a pre-selected plane.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a sensor to measure how level the at least one axis is relative to a horizontal plane in order to determine which side of the vehicle needs to be adjusted.

With respect to claim 8, Schneider et al. discloses that the controller is an electronic control unit, and wherein the measuring means is at least one leveling sensor (Abstract).

With respect to claims 13, 25, and 26, all of the steps are repeated until the vehicle axis is parallel to the horizontal plane, or within a tolerance of parallel to the horizontal plane.

Although neither Schneider et al. nor Morrisroe, Jr. disclose that the axis is adjusted within a tolerance of parallel to the horizontal plane, it would have been obvious to one having ordinary skill in the art at the time the invention was made to level the vehicle within a range, since it has been held that discovering a range or tolerance for leveling the vehicle with respect to the horizontal plane involves only routine skill in the art. When the vehicle is within the tolerance or perfectly parallel to the horizontal plane, it would not be noticeable to the occupants in the vehicle and would provide the same amount of comfort.

With respect to claims 15 and 16, Schneider et al. discloses that the output is communicated to the operator via the display, the display including a plurality of LEDs (column 2, lines 61-63) that illuminate in a manner representing a leveling orientation of at least two vehicle axes relative to the horizontal plane, wherein the at least two axes are the fore to aft axis and the side to side axis (Figure 4).

With respect to claim 20, Morrisroe, Jr. discloses that the vehicle includes an air suspension element, wherein the controller of Schneider et al., via the electronic ride height control system, changes the amount of air in the air suspension element during the adjusting (Abstract).

7. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kami et al. in view of Schneider et al.

Kami et al. discloses the claimed invention as discussed above but does not disclose outputting the information to an operator via at least one of a display and an audible indicator, and that outputting the information to an operator to inform the operator of at least one of whether or not the vehicle axis is level relative to the horizontal plane, whether or not the vehicle axis is being leveled relative to the horizontal plane, whether or not the vehicle axis is within a range of potential angles that will enable the vehicle axis to be leveled relative to the horizontal plane, and whether or not the vehicle axis is leveled to a tolerance relative to the horizontal plane (column 2, lines 63-67 and column 3, lines 1-9).

However, Schneider et al. does disclose outputting the information to an operator via at least one of a display and an audible indicator (Abstract, lines 16-18), and that outputting the information to an operator to inform the operator of at least one of whether or not the vehicle axis is level relative to the horizontal plane, whether or not the vehicle axis is being leveled relative to the horizontal plane, whether or not the vehicle axis is within a range of potential angles that will enable the vehicle axis to be leveled relative to the horizontal plane, and whether or not the vehicle axis is leveled to a tolerance relative to the horizontal plane (column 2, lines 63-67 and column 3, lines 1-9).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Kami et al. in view of the teachings of Schneider et al. to output the information to an operator via a display indicator that informs the operator of the leveling condition so that the operator is aware of the vehicle orientation with respect to the horizontal plane and can manually level the vehicle accordingly.

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Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Decker, Ford et al., Sproatt et al., and Kunz disclose similar leveling systems.

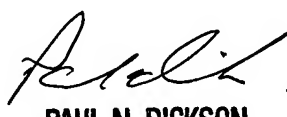
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Drew J. Brown whose telephone number is 571-272-1362. The examiner can normally be reached on Monday-Thursday from 8 a.m. to 4 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul N. Dickson can be reached on 571-272-6669. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Drew J. Brown
Examiner
Art Unit 3616

DJB
3/15/06

 3/17/06
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